City of Seattle Amendments to National Fire Protection Association (NFPA) 58 Liquefied Petroleum Gas Code, 2001 edition.

Point of Information

To purchase a copy of the NFPA 58, 2001 edition, go to www.nfpa.org or contact your nearest technical book retailer. Be sure to obtain the 2001 edition of NFPA 58 as newer editions may exist.

City of Seattle Ordinance 121524 adopts the 2003 Seattle Fire Code and by reference adopts the National Fire Protection Association (NFPA) 58 Liquefied Petroleum Gas Code, 2001 edition. Sections of NFPA that were amended or repealed are indicated in the excerpts shown below from below from City of Seattle Ordinance 121524. Text that is deleted from the NFPA 58 is shown with strikethrough and enclosed in double parenthesis. Text that was added as a Seattle amendment is shown as underlined. Where an entire section was deleted, it is noted as being repealed.

Subsection 1.4.1 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

1.4.1 Stationary Installations.

Plans for stationary installations utilizing storage containers of over ((~~2000~~)) 500-gal (((~~7.6~~))1.9 -m^3) individual water capacity, or with aggregate water capacity exceeding ((~~4000~~)) 1000 gal (((~~15.1~~)) 3.78 m^3), and all ((~~rooftop installations of ASME containers~~)) mounded or underground containers shall be submitted to the authority having jurisdiction by the person or company that either installs or contracts to have the containers installed before the installation is started. [See also 3.4.9.1(e).]

Subsection 1.4.2 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

1.4.2 Temporary Installations. The authority having jurisdiction shall be notified of temporary (not to exceed six months) installations ((~~of the container sizes covered in 1.4.1~~)) before the installation is started.

Subsection 2.2.5.2 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

2.2.5.2 Vertical ASME containers of over 125-gal (0.5-m^3) water capacity and designed for permanent installation in stationary service shall be designed with steel supports that are designed to allow the container to be mounted on and fastened to concrete foundations or supports. Such steel supports shall be designed to make the container self-supporting without guy wires and to withstand the wind and seismic (earthquake) forces anticipated at the site. The provisions of 2.2.2.3 shall apply.

The steel supports shall be protected against fire exposure with a material having a fire resistance rating of at least 2 hours. See Seattle Fire Code Chapter 45, ASTM Standard E1529 for the performance requirements for fire-resistive assemblies.
((~~Exception: Continuous steel skirts having only one opening of 18 in. (457 m) or less in diameter shall have 2-hour fire protection applied to the outside of the skirt.~~))

Subsection 3.2.3.1* of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.2.3.1* Liquid shall be transferred into containers, including containers mounted on vehicles, only outdoors or in structures specially designed for the purpose.
(a) The transfer of liquid into containers mounted on vehicles shall not take place within a building but shall be permitted to take place under a weather shelter or canopy (see 3.9.3.2)
(b) Structures housing transfer operations or converted for such use after December 31, 1972, shall comply with Chapter 7
(c) The transfer of liquid into containers on the roofs of structures shall be ((~~permitted,~~)) prohibited.((~~provided that the installation conforms to the requirements contained in 3.2.10 and 3.4.9~~))
(d) The transfer hose shall not be routed in or through any building except those specified in 3.2.3.1(b)

Subsection 3.2.6.3 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.2.6.3 Where single containers complying with Table 2.2.5.1 are installed ((~~in isolated locations~~)) with ~~nonfireproofed~~)) steel supports resting on concrete pads or footings and the outside bottom of the container shell is ((~~not~~)) more than ((~~5 ft (1.5 m)~~)) 24 inches above the ((~~ground level~~))-foundation, the ((~~approval of the authority having jurisdiction shall be obtained.~~))steel supports shall be protected against fire exposure with a material having a fire resistance rating of at least 2 hours. See Seattle Fire Code Chapter 45, ASTM Standard E1529 for the performance requirements for fire-resistive assemblies.

Subsection 3.2.7.2 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.2.7.2 Steel supports shall be protected against fire exposure with a material that has a fire resistance rating of at least 2 hours.
((~~**Exception:** Continuous steel skirts that have only one opening that is 18 in. (457 mm) or less in diameter shall have fire protection applied to the outside of the skirts.~~))

Subsection 3.2.10 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.2.10 Installation of Containers on Roofs of Buildings.

3.2.10.1 Installation of containers on roofs of buildings including parking garages shall be prohibited.((~~, unless approved by the authority having jurisdiction and the fire department.~~))

((**3.2.10.2** Where the authority having jurisdiction and the fire department have approved an installation of a container, it shall comply with the following:))

(((a) The building shall be of Type I, 443 or 332, or Type II, 222 construction as specified in NFPA 220, Standard on Types of Building Construction.

(b) LP-Gas containers installed on roofs shall be 2000 gal water capacity or less. The aggregate water capacity of LP-Gas containers installed on the roof or terrace of one building shall not exceed 4000 gal.

Exception: Additional installations shall be located at least 50 ft (15.2 m) apart.

(c) An ASME container installed on the roof of a building shall always be filled by two operators, one at the controls of the vehicle supplying LP-Gas and another at the controls of the container.

(d) Containers shall be installed in external locations only. Where a fill line to the container is required, it shall be located entirely outside the building. The fill connection shall be located entirely outside the building. The fill connection shall be located at least 8 ft (2.4 m) above ground level.

(e) Containers shall be installed on a level location.

(f) The container shall be secured to the building structure. The support of the container shall be designed to the same seismic criteria as the building.

(g) The roof on which the container is located shall be able to support the weight of the container filled with water, with the safety margins required by local codes.

(h) Containers shall be located in areas where there is free air circulation, at least 10 ft (3.0 m) from building openings (such as windows and doors), and at least 20 ft (6.1 m) from air intakes of air-conditioning and ventilating systems.

(i) Location shall permit access to all valves and controls and shall have enough area to permit the required maintenance.

(j) If the installation requires the use of more than one container, the distances between containers of Table 3.2.2.2 shall apply.

(k) If the container location is higher than 23 ft (7 m) from the ground, or the filling hose cannot be observed by the operators in its entire length, the container shall have a filling line constructed to withstand liquid transfer, and it shall have the following appurtenances: filling valve with back check valve, cap, two control valves, hydrostatic relief, venting line. The liquid and vapor fill connections shall be conspicuously marked or labeled.

(l) A fire safety analysis shall be conducted in accordance with 3.10.2.2.))

Subsection 3.4.1.1 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

3.4.1.1 This section shall apply to the installation of LP-Gas systems in buildings or structures. These systems include those utilizing cylinders inside of or on the roofs or exterior balconies of buildings and those in which the liquid is piped from outside containers into buildings or onto the roof. Cylinders in use shall mean connected for use. These systems shall be permitted in accordance with 3.4.1 and 3.4.2.

(a) The use of cylinders indoors shall be only for the purposes specified in 3.4.3 through 3.4.8. Such use shall be limited to those conditions where operational requirements make use of cylinders necessary and location outside is impractical.
(((b) Installations using cylinders on roofs shall be as specified in 3.4.9.1. Such use shall be limited to those conditions where operational requirements make use of cylinders necessary and location other than on roofs of buildings or structures is impractical.))
(((~~(c)~~)))(b) Installations using cylinders on exterior balconies shall be as specified in 3.4.9.2. the Seattle Fire Code Section
(((~~(d)~~)))(c) Liquid LP-Gas shall be piped into buildings or structures only for the purposes specified in 3.2.13(c).

Subsection 3.4.2.6 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.4.2.6 Where cylinders are located on a floor((~~, roof,~~)) or balcony, cylinders shall be secured to prevent falling over the edge.

Subsection 3.4.3.6 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.4.3.6 If heaters are connected to cylinders manifolded together for use in an unpartitioned area on the same floor, the total water capacity of cylinders manifolded together serving any one heater shall not be greater than 735 lb (333 kg) [nominal 300 lb (136 kg) LP-Gas capacity], and, if there is more than one such manifold, it shall be separated from any other by at least 20 ft (6.1 m).

Maximum individual LP-gas cylinder capacities and aggregate quantities of LP-gas allowed within buildings undergoing construction or renovation or used for temporary heating shall be in accordance with the Seattle Fire Code Section 3803.2.1.2.

Subsection 3.4.5.1 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.4.5.1 Cylinders used in buildings housing industrial occupancies for processing, research, or experimental purposes shall comply with the following:
(a) Cylinders, equipment, and piping used shall comply with 3.4.2.
(b) If cylinders are manifolded together, the total water capacity of the connected cylinders shall be not more than 735 lb (333 kg) [nominal 300 lb (136 kg) LP-Gas capacity]. If there is more than one such manifold in a room, it shall be separated from any other by at least 20 ft (6.1 m).
(c) The amount of LP-Gas in cylinders for research and experimental use in the building shall be limited to the smallest practical quantity and shall not exceed the quantity limits set forth in Seattle Fire Code Section 3803.2.1.3.

Subsection 3.4.6 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:
3.4.6 Buildings Housing Educational and Institutional Occupancies.

The use of cylinders in classrooms shall be prohibited. Where cylinders are used in ((~~buildings housing educational and institutional~~)) Group B, E and I laboratory occupancies for research and experimental purposes, the following shall apply:

3.4.6.1 The maximum water capacity of individual cylinders used shall be 50 lb (23 kg) [nominal 20 lb (9.1 kg) LP-Gas capacity] if used in ~~educational~~ Group B and E occupancies and 12 lb (5.4 kg) [nominal 5 lb (2 kg) LP-Gas capacity] if used in Group I ((~~institutional~~)) occupancies.

Subsection 3.4.9.1 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

3.4.9.1 ((~~Cylinders installed permanently on roofs of buildings of fire-resistant construction or noncombustible construction having essentially noncombustible contents, or of other construction or contents that are protected with automatic sprinklers (see NFPA 220, Standard on Types of Building Construction) shall be in accordance with the following:~~

~~(a) The total water capacity of cylinders connected to any one manifold shall be not greater than 980 lb (445 kg) [nominal 400 lb (181 kg) LP-Gas capacity]. If more than one manifold is located on the roof, it shall be separated from any other by at least 50 ft (15 m).~~

~~(b) Cylinders shall be located in areas where there is free air circulation, at least 10 ft (3.0 m) from building openings (such as windows and doors), and at least 20 ft (6.1 m) from air intakes of air conditioning and ventilating systems.~~

~~(c) Cylinders shall not be located on roofs that are entirely enclosed by parapets more than 18 in. (457 mm) high unless the parapets are breached with low-level ventilation openings no more than 20 ft (6.1 m) apart or all openings communicating with the interior of the building are at or above the top of the parapets.~~

~~(d) Piping shall be in accordance with 3.4.2.3. Hose shall not be used for connection to cylinders.~~

~~(e) The fire department shall be advised of each such installation.~~))

LP-gas containers are prohibited on the roofs of buildings including parking garages.

Exceptions:

1. Temporary installations allowed in accordance with Section 3.4.
2. A single LP-gas container having an individual water capacity not exceeding 48 lbs. [nominal 20 pounds (9 kg) LP-gas] connected to a LP-gas grill located on other than Group R-4 and LC occupancies, provided a portable fire extinguisher having a minium rating of 20-B is located within 30 fee (9144 mm) of the grill.

Subsection 3.4.9.2 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

3.4.9.2.

((~~Cylinders having water capacities greater than 2.7 lob (1kg) [nominal 1 lb (0.5 kg0] LP-Gas capacity shall not be located on balconies above the first floor that are~~

~~attached to a multiple family dwelling of three or more living units located one above the other.~~

~~*Exception: Cylinders located on balconies served by outside stairways, where only such stairways are used to transport the cylinder shall not be prohibited.*~~))

A single LP-gas container have an individual water capacity not exceeding 48 pounds (22 kg) [nominal 20 pounds (9 kg) LP-gas] connected to a LP-gas grill on other than Group R-4 and LC occupancies provided a portable fire extinguisher having a minimum rating of 20-B is located with 30 feet (9144mm) of the grill.

Subsection 3.10.2.2* of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

3.10.2.2* Fire protection shall be provided for installations of ASME containers with an aggregate water capacity of more than 4000 gal (15.1 m3) ((~~and of ASME containers on roofs in accordance with 3.2.10~~)). The mode of such protection shall be determined through a written fire safety analysis for new installations and, for existing installations, by 3 years from the effective date of this code.

Subsection 5.4.1.1 of the National Fire Protection Association 58 Liquefied Petroleum Gas Code, 2001 edition, is amended as follows:

5.4.1.1 Cylinders shall be located ((~~A~~))at least ((~~5 ft (1.5 m)~~)) 10 feet (3 m) from any doorway or openings into buildings, exit access doors, exits, stairways or in areas normallused, or intended to be used as a means of egress((~~in a building frequented by the public~~)); 20 feet (6 m) from any motor vehicle fuel dispenser and 10 feet (3 m) from any combustible material. ((~~ where occupants have at least two means of egress as defined by NFPA 101, Life Safety Code. For buildings, or sections of buildings, having only one means of egress, at least 10 ft (3 m) from the doorway or opening.~~))

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